

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: _____ Date: _____

Work Order update only ☐

Work Order: _____ Part No. _____ NCR No. _____		DISPOSITION Rework ☐ Scrap ☐ Use-as-is ☐ Suspected Unapproved ☐		AGAINST DEPARTMENT/PROCESS Skid-tube ☐ Machining ☐ Thermoforming ☐ Large Fab ☐ Cross tube ☐ Small Fab ☐ Finishing ☐ Composite ☐ Water Jet ☐ Prod. Eng. Coord. ☐ Rec/Store/Packaging ☐ Supplier ☐ Engineering ☐ Quality ☐ Other ☐					
Date :		Step #:		QTY Effective :				MRB (QS1042) Approval	
Description Work Order Deviation				Disposition				Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Root Cause		FAULT CATEGORY							
Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐	No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐	Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐	Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐	Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐	Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐				
		OTHER :							

Work Order ID 157778***157778***

Page 2

Monday, March 20, 2017 1:16:02 PM

Item ID: 647.7712

Accept

N900040100

Setup Start

NS1

Revision ID:

Stop

NS2

Item Name: Strut Tube

Start Date: 3/27/2017 Start Qty: 20.00

20

Cust Item ID:

Required Date: 3/31/2017 Req'd Qty: 20.00

20

Customer:

Reference: SCHEDULED/S

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start

NR1

QC:

Date:

SPC (Y/N):

Date:

Stop

NR2Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run Hours

Tool ID

Tool #

Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

120

QC8- Inspect parts - second check

0.00

120

QC

Memo

0.40

Quality Control

20

9

DAS
49
9-89

17/03/21

130

Identify as per dwg & Stock Location:

W1002

0.00

130

Packaging

Memo

0.40

Packaging

20

DAS
41
9-89

MAR 21 2017

140

QC21- Final Inspection - Work Order Release

0.00

140

QC

Memo

2.00

Quality Control

17/3/23

DAS
21
9-89

MAR 22 2017

DQA: _____ Date: _____



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Date :		Step #:		QTY Effective :			MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval		
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐		FAULT CATEGORY Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Mislabeled ☐ Fit/Function ☐ Misaligned/off center ☐		Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐			
		OTHER : ☐							

Picklist Print

Monday, March 20, 2017 1:16:05 PM

Page 1

Work Order ID: 157778

157778

Parent Item: 647.7712

647 7712

Parent Item Name: Strut Tube

Start Date: 3/27/2017

Required Date: 3/31/2017

Start Qty: 20.00

Required Qty: 20.00

Comments: IPP REV:A NEW ISSUE 12-11-06 JLM VERIFIED BY:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
M4130NR0.375		Purchased	No			100	f	8.3340	0.05	1.052632			DAS

M4130NR0.375

4130 steel RD bar .375"

17-03-21

32
9-89

Location

Loc Qty

Loc Code

MAT032

8.334

m136739

8.334

1.156'

DQA: _____ Date: _____



WORK ORDER NON-CONFORMANCE / UPDATE

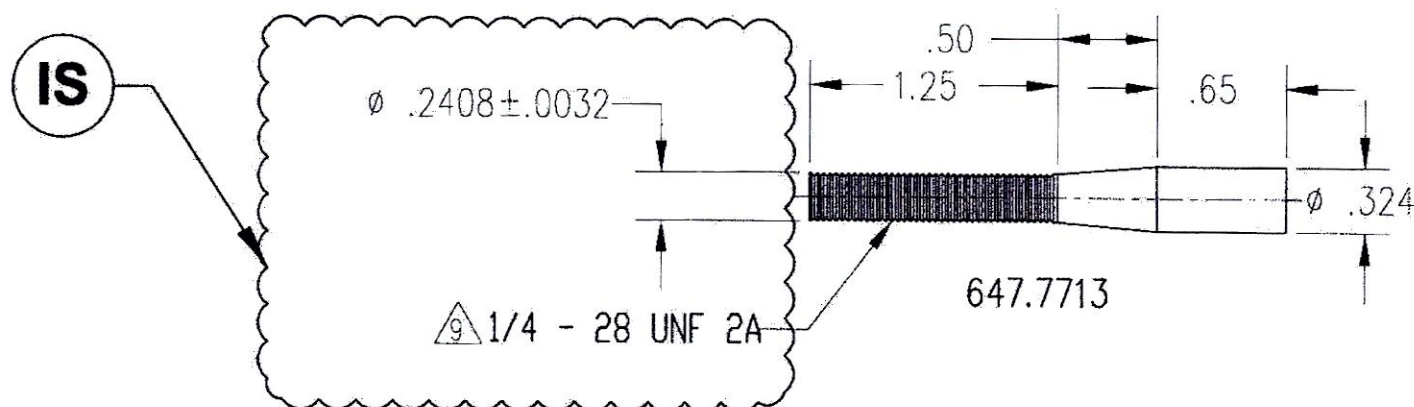
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Date :		Step #:		QTY Effective :				MRB (QS1042) Approval Completed By Lead hand / Supervisor Approval Verification QC / QA Coordinator Approval	
Description Work Order Deviation				Disposition					
Root Cause Environment ☐ Design ☐ Doc/Data ☐ Equip/Tooling ☐ Handling/Pre ☐ Material ☐ Internal Transport ☐ Tribal Knowledge ☐ LOA ☐ Substation ☐ Past Expiry Date ☐ Misidentified ☐ No Re-verification ☐ Operator ☐ Offset/Setup ☐ Supplier ☐ Training ☐ Use for Testing ☐ Poor Information ☐ Rushing ☐ Product Improvement ☐ Process Improvement ☐ Manufacturing Process ☐ Past Due ☐		FAULT CATEGORY Pressure/Forced ☐ Bending ☐ Centre Not Concentric ☐ Cracks ☐ Crimp/Kink/Ripple/Wave ☐ Cuffs ☐ Crushing ☐ Heat Treat ☐ Wave/Twist in Tube ☐ Marks/Chatter ☐ Temperature/Cure ☐ Set-up ☐ BOM/Route ☐ Broken/Damage/Defect ☐ Inspection Incomplete/Unqualified ☐ Contamination ☐ Countersink ☐ Cut Too Short ☐ Instructions Incomplete/Unclear ☐ Drill Holes ☐ Power Loss/Surge ☐ Folio/Program ☐ Grain ☐ Weld ☐ Wrong Stock Pulled ☐ Out of Sequence ☐ Off-set ☐ Misabeled ☐ Fit/Function ☐ Misaligned/off center ☐ Positioned Wrong ☐ Outside Dimensions ☐ Over/Under tolerance ☐ Part Incorrect ☐ Part Lost/Missing ☐ Part Moved ☐ Drawing ☐ Finish ☐ Misread ☐ Turning Sequence ☐							
OTHER : ☐									

DART AEROSPACE APICAL INDUSTRIES, INC. dba DART AEROSPACE	ENGINEERING CHANGE NOTICE NO. 05397			SHEET 1 OF 1	
	DWG NO. 647.7700	REV: A	PREPARED BY T. CROSS	DATE: 05/02/16	EFFECT ON DWG ☐ INC. ☒ UNINC.
	DWG TITLE: STRUT ASSY				
	APPROVED BY: ENGR <i>[Signature]</i>	MFG <i>[Signature]</i>	QC <i>[Signature]</i>	EFF: <i>[Signature]</i>	CURRENT ORDER
TRANSACTION CODES (TC): A-ADD C-CREATE R-REVISE D-DELETE	REASON: REVISED DIMENSION				ECR: 16-028

SHEET 2, ZONE D4 IS:



SHOP COPY
RETURN TO
ENGINEERING
UNCONTROLLED COPY
SUBJECT TO AMENDMENT
WITHOUT NOTICE
WORK ORDER
NO. 157778 MLC
1703-20

DOCUMENTS EFFECTED:	☐ PATTERN ☐ MDL ☐ INSTALL INSTRU ☐ ICA ☐ BOM	CHANGE CATEGORY ☐ MAJOR ☒ MINOR	DER REVIEW REQUIRED ☐ YES ☒ NO
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APICAL INDUSTRIES, INC.
dba DART AEROSPACE

ENGINEERING CHANGE NOTICE NO.

05110

SHEET 1 OF 1

DWG NO. 647.7700

REV: A

PREPARED
BY

A. QUAN

DATE: 08/21/15

EFFECT ON DWG

☐ INC. ☒ UNINC.

DWG TITLE: STRUT ASSY

APPROVED BY:

ENGR

MFG

QC

EFF.

CURRENT ORDER

TRANSACTION CODES (TC):
A-ADD
R-REVISE
C-CREATE
D-DELETE

REASON: REVISED FINISH CALLOUT AS PER ECR 15-209

SHEET 1, NOTES IS:

ACTION: UPDATE MO & WO

NOTES:

- 1 MATERIAL: 4130 STEEL PER AMS-T-6736, .50" OD, .083" WALL THK.
- 2 MATERIAL: 4130 STEEL PER AMS-T-6736, .375" OD, .075" WALL THK.
- 3 MATERIAL: 4130 STEEL PER AMS-T-6736, .324" OD.
- 4 FINISH: PRIME IAW MIL-P-2337J TYPE I CLASS N; 1-2 MIL MAX
5. DEBURR AND BREAK ALL SHARP EDGES
6. IDENTIFY IAW MPP-120.
- 7 WELD IAW MIL-STD-2219. TIG WELD WITH FILLER ROD
- 8 FINISH: CAD PLATE IAW QQ-P-416F CLASS I TYPE II
- 9 MASK THREAD PRIOR TO FINISH

F/N	TC	PART NUMBER	QTY	DESCRIPTION	MATERIAL/SPECIFICATION
DOCUMENTS EFFECTED: ☐ MDL ☐ INSTALL INSTRUCTIONS ☐ ICA ☐ FMS ☐ BOM					
CHANGE CATEGORY ☐ MAJOR ☐ MINOR				DER REVIEW REQUIRED ☐ YES ☐ NO	

THE INFORMATION CONTAINED IN THIS DRAWING IS THE SOLE PROPERTY OF APICAL INDUSTRIES. ANY REPRODUCTION IN PART OR WHOLE WITHOUT THE WRITTEN PERMISSION OF APICAL INDUSTRIES IS PROHIBITED.

NOTES:

- 1 MATERIAL: 4130 STEEL PER AMS-T-6736 .50" OD, .083" WALL THK.
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- 4 FINISH: PRIME IAW MIL-P-2337J TYPE I CLASS N; 1-2 MIL MAX
- 5 DEBURR AND BREAK ALL SHARP EDGES
- 6 IDENTIFY IAW MPP-120.
- 7 WELD IAW MIL-STD-2219. TIG WELD WITH FILLER ROD
- 8 FINISH: CAD PLATE IAW MIL-C-5541 CLASS 1A
- 9 MASK THREAD PRIOR TO FINISH

REVISIONS			
REV.	DESCRIPTION	DATE	APPROVED
1	LAST PROTOTYPE REVISION NO.		N/C
N/C	INITIAL RELEASE	12/02/04	P BRAVO
A	INCORPORATED ECN 04741	11/13/14	P BRAVO

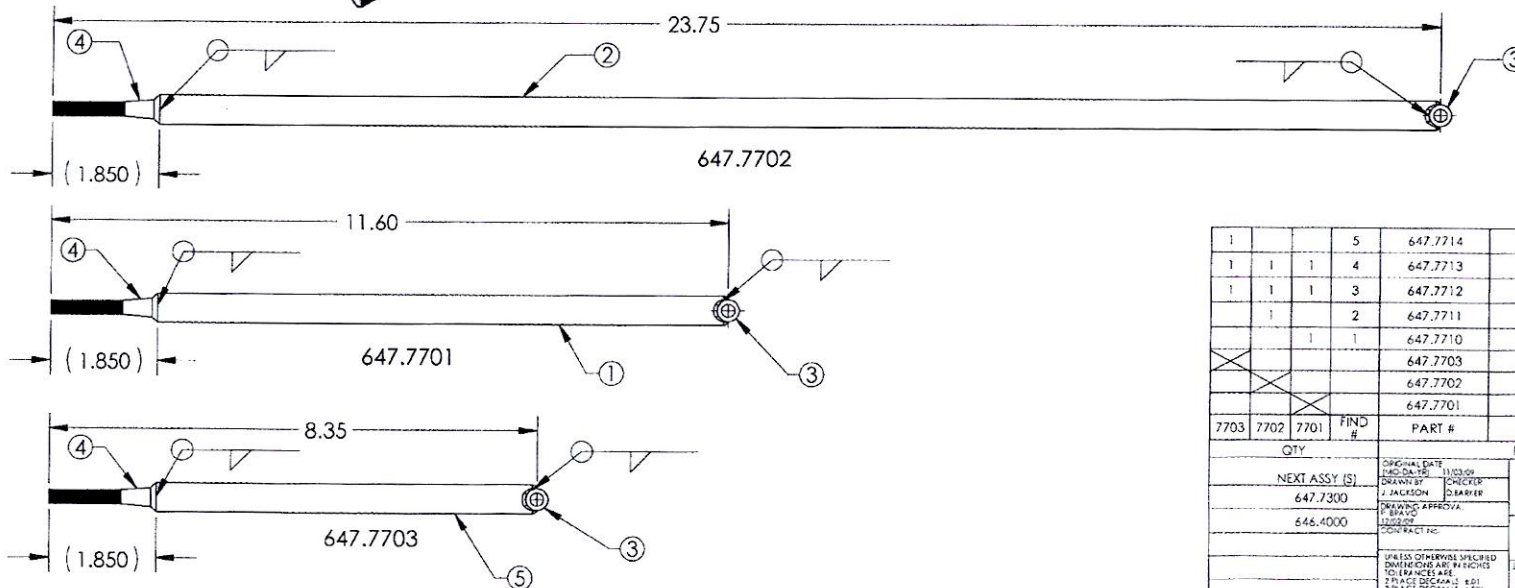
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647.7703

647.7702

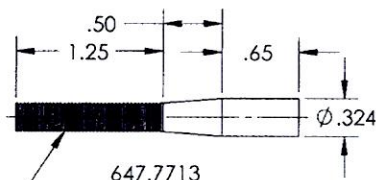
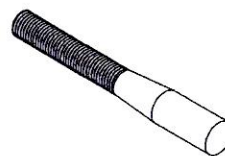
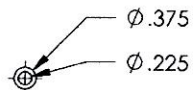
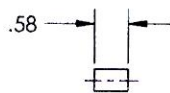
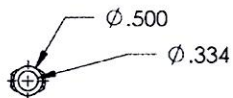
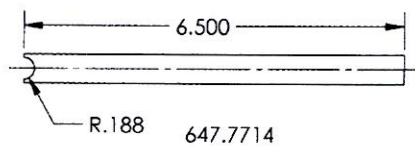
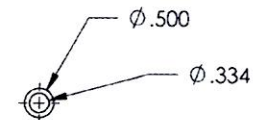
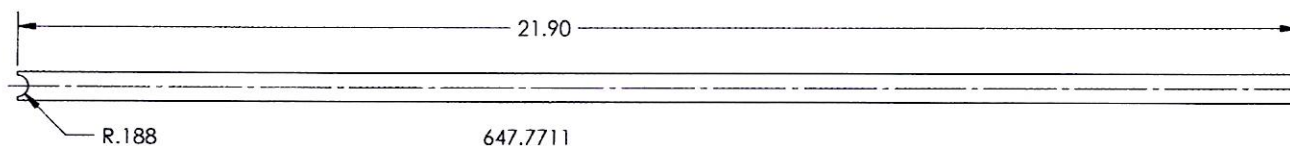
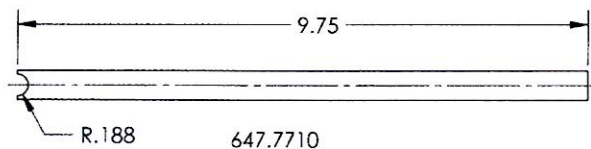
UNINCORPORATED ECN(s)

05110, 05397,



1			5	647.7714	STRUT TUBE	△	
1	1	1	4	647.7713	STRUT THREAD	△	△
1	1	1	3	647.7712	STRUT TUBE	△	
			2	647.7711	STRUT TUBE	△	
			1	647.7710	STRUT TUBE	△	
×				647.7703	STRUT ASSY		△△
×				647.7702	STRUT ASSY		△△
×				647.7701	STRUT ASSY		△△
7703	7702	7701	FIND #	PART #	DESCRIPTION	MAT'L	SPEC.
QTY				PARTS LIST			
NEXT ASSY (S)				ORIGINAL DATE	11/03/04	APICAL INDUSTRIES 2608 TEMPLE HEIGHTS DR. OCEANSIDE, CA. 92056-3512 (760)724-5300	
647.7300				DRAWN BY	J. JACKSON		
648.4000				CHECKED	D. BARBER		
				DRAWING APPROVAL			
				DATE	11/03/04	STRUT ASSY DWG. NO. 647.7700	
				CONTRACT NO.			
				UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TO 1/16 INCHES 3 PLACE DECIMALS .001 ANGLES .5°			
				REV.	8	SCALE	NONE
				SHEET 1 OF 2			

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1/4 - 28 THREAD

ORIGINAL DATE: 11/10/08		APICAL INDUSTRIES	
DRAWN BY: J. JACKSON		2608 TEMPLE HEIGHTS DR.	
DRAWING APPROVAL: P. BRAY		OCEANSIDE, CA. 92056-3512 (760)724-5300	
CONTRACT NO.		STRUT ASSY	
UNLESS OTHERWISE SPECIFIED, DIMENSIONS ARE IN INCHES.	REV: 6	DWG. NO. 647.7700	REV. A
1 PLACE: DECIMALS ±.01	SCALE: NONE	SHEET 2 OF 2	
2 PLACE: DECIMALS ±.005			
3 PLACE: DECIMALS ±.001			
4 PLACE: DECIMALS ±.0005			